IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
	)	
TOWNES et al.	)	Art Unit: Unassigned
	)	
Application No.: 10/659,675	)	Examiner: Unassigned
	)	
Filed: September 10, 2003	)	Confirmation No. Unassigned
	)	
For: TRANSGENIC ANIMALS THAT PRODUCE HUMAN HEMOGLOBIN	)	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NEEDLE & ROSENBERG, P.C.
Customer No. 23859

October 21, 2003

Sir:

Pursuant to the requirements of 37 C.F.R. § 1.56, submitted herewith on the accompanying Form PTO-1449 is a listing of documents known to Applicants and/or their attorneys. All of the documents cited were cited by or submitted to the Patent Office in Application No. 08/961,443, filed October 30, 1997, to which the present application claims priority. Pursuant to 37 C.F.R. § 1.98(d), copies of these documents are not enclosed.

This Information Disclosure Statement is believed to be filed in a timely manner pursuant to 37 C.F.R. § 1.97(b)(3), in that a first Office Action on the merits of the present patent

application has not yet been mailed to Applicants.

Consideration of the cited documents and making the same of record in the prosecution of the above-referenced application are respectfully requested.

No fee is believed to be due; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

David E. Huizenga
Registration No. 49,026

NEEDLE & ROSENBERG, P.C.
Customer No. 23859
(404) 688-0770
(404) 688-9880 (fax)

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

David E. Huizenga — October 21, 2005
Date

Form PTO-1449
U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

LIST OF INFORMATION CITED BY APPLICANT
(Use as many sheets as necessary)

Complete if Known	
Application Number	10/659,675
Filing Date	September 10, 2003
First Named Inventor	Tim Townes et al.
Group Art Unit	Unassigned
Examiner Name	Unassigned

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	Document No.	Date	Name	Class	Subclass	Filing Date (if appropriate
	A1	6,200,806	03-2001	Thomson	435	366	
	A2	5,843,780	12-1998	Thomson	435	363	
	A3	5,602,306	02-11-1997	Townes et al.			

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code	Date	Name	Translation Yes/No
	A4	WO 95/03820	9 Feb 1995		
	A5	WO 95/00657	5 Jan 1995		

NON-PATENT DOCUMENTS

Examiner's Initials	Cite No.	Non-Patent Citations (include Author, Title, Publisher, Relevant Pages, Date and Place of Publication)
	A6	Baribault et al."Embryonic Stem Cell Culture and Gene Targeting in Transgenic Mice", Mol. Biol. Med. 6:481-492 (1989).
	A7	Behringer et al. "Human γ- to βglobin gene switching in transgenic mice", Genes & Development 4:380-389 (1990).
	A8	Behringer et al. "Synthesis of Functional Human Hemoglobin in Transgenic Mice", Science 245:971-973 (1989).
	A9	Ciavatta et al. "Mouse model of human β^0 thalassemia: Targeted deletion of the mouse β^{mal-} and β^{min-}globin genes in embryonic stem cells", Proc. Natl. Acad. Sci. USA 92:9259-9263 (1995)
	A10	Dillon N. "Regulating Gene Expression in Gene Therapy", Tibtech 11:167-173 (1993)
	A11	Ebert et al. Molecular Endocrinology 2:277-283 (1988)
	A12	Fabry et al. "A Second Generation Transgenic Mouse Model Expressing Both Hemoglobin S(HbS) and HbS-Antilles Results in Increased Phenotypic Severity", Blood 86:2419-2428 1995)
	A13	Fabry et al. "High expression of human β^S-and α-globins in transgenic mice: Erythrocyte abnormalities, organ damage, and the effect of hypoxia", Proc. Natl. Acad. Sci. USA 89:12155-12159 (1992)
	A14	Greaves et al. "A transgenic mouse model of sickle cell disorder", Nature 343:183-185 (1990)
	A15	Gu et al. "Independent Control of Immunoglobulin Switch Recombination at Individual Switch Regions Evidenced Trough Cre-LoxP-Mediated Gene Targeting", Cell 73:1155-1164 (1993)
	A16	Hammer et al. J. Anim. Sci. 63:269-278 (1986)

Examiner Signature:	Date Considered:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449
U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

LIST OF INFORMATION CITED BY APPLICANT
(Use as many sheets as necessary)

Complete if Known	
Application Number	10/659,675
Filing Date	September 10, 2003
First Named Inventor	Tim Townes et al.
Group Art Unit	Unassigned
Examiner Name	Unassigned

NON-PATENT DOCUMENTS

Examiner's Initials	Cite No.	Non-Patent Citations (include Author, Title, Publisher, Relevant Pages, Date and Place of Publication)
	A17	Kappel et al., Current Opinion in Biotechnology 3:548-553 (1992)
	A18	Khoury et al. "Parameters Influencing the Expression of Human Hemoglobin in Transgenic Pigs", J. Cell Biochemistry Suppl. 0(17 PartA), B 362, p. 115 (1993)
	A19	Lauer et al. "The Chromosomal Arrangement of Human α-Like Globin Genes: Sequence Homology and α-Globin Gene Deletions", Cell 20:119-130 (1980)
	A20	Logan et al. "Transgenic Swine as a Recombinant Production System for Human Hemoglobin", Methods in Enzymology 231;435-445(1994)
	A21	Moreadith et al. J. of Molecular Medicine 75:208-216 (1997)
	A22	Mullins et al. Journal of Clinical Ivestigation 98(11):S37-S40 (1996)
	A23	Nagy et al. "Derivation of completely cell culture-derived mice from early-passage embryonic stem cells", Proc. Natl. Acad. Sci. USA 90:8424-8428 (1993)
	A24	Paszty et al. "Lethan α-thalassaemia Created by Gene Targeting in Mice and its Genetic Rescue", Nature Genetics 11;33-39 (1995)
	A25	Pennisi et al. "Clones: A hard act to follow", Science 288:1722-1727 (June 2000)
	A26	Polejaeva et al. "Cloned pigs produced by nuclear transfer from adult somatic cells," Nature 407:86-90 (Sept. 2000)
	A27	Popp et al. "A Transtgenic Mouse Model of Hemoglobin S Antilles Disease", Blood 89:4204-4212 (1997)
	A28	Rhoda et al. "Mouse α chains inhibit polymerization of hemoglobin induced by human β^S or $\beta^{SAntilles}$ chains", Biochimica et Biophysica Acta 952:208-212 (1988)
	A29	Rubin et al. Journal of Clinical Investigation 87:639-647 (Feb. 1991)
	A30	Ryan et al. "Human Sickle Hemoglobin in Transgenic Mice" Science 247:566-568 (1990)
	A31	Seamark, Reprod. Fertil. Dev. 6:653-657 (1994)
	A32	Sharpe et al. "Analysis of the Human αGlobin Upstream Regulatory Element (HS-40) in Transgenic Mice", European Journal of Molecular Biology 11:4565-4571 (1992)
	A33	Stacy et al. "Use of Double-Replacement Gene Targeting to Replace the Murine α-Lactalburmin Gene with Its Human Counterpart in Embryonic Stem Cells and Mice", Molecular and Cellular Biology 14:1009—1016 (1994)
	A34	Strojek & Wagner Genetic Engineering 10:221-246 (1988)
	A35	Swanson et al. "Production of Functional Human Hemoglobin in Transgenic Swine", BioTechnology 10:557-559 (1992)

Form PTO-1449
U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

LIST OF INFORMATION CITED BY APPLICANT
(Use as many sheets as necessary)

Complete if Known	
Application Number	10/659,675
Filing Date	September 10, 2003
First Named Inventor	Tim Townes et al.
Group Art Unit	Unassigned
Examiner Name	Unassigned

Examiner's Initials	Cite No.	Non-Patent Citations (include Author, Title, Publisher, Relevant Pages, Date and Place of Publication)
	A36	Townes et al. "Erythroid-specific expression of human β-globin genes in transgenic mice", The EMBO Journal 4:1715-1723 (1985)
	A37	Trudel et al. "Sickle Cell Disease of Transgenic SAD Mcie", Blood 84:3189-3197 (1994)
	A38	Trudel et al. "Towards a transgenic mouse model of sickle cell disease: hemoglobin SAD", The EMBO Journal 10:3157-3165 (1991)
	A39	Tybulewicz et al. "Neonatal Lethality and Lymphopenia in Mice with a Homozygous Disruption of the c-*abl* Proto-Oncogene", Cell 65:1153-1163 (1991)
	A40	Wall, Theriogenology 43:57-68 (1996)
	A41	Westphal FASEB J., 3:117-120 (1989)
	A42	Westhusin et al. "Cloning to reproduce desired genotypes" Theriogenology 55:35-49 (2001)
	A43	Yang et al. "A mouse model for β^0-thalassemia", Proc. Natl. Acad. Sci. USA 92:11608-11612 (1995)

Examiner Signature:	Date Considered:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.